



The Indian EXPRESS

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RAMNATH GOENKA

BECAUSE THE TRUTH INVOLVES US ALL

Crunch time for secularism

Congress ambivalence has allowed BJP to walk away with liberal agendas



PRATAP BHANU MEHTA

THE NEXT FEW months may turn out to be crunch time for the institutional formation of Indian secularism. The Ayodhya judgment is expected. The government is also likely going to move on three other issues that go to the core of secularism: The Citizenship Amendment Act (CAB) and the possible extension of the National Register of Citizens (NRC) itself; the introduction of a Common Civil Code Bill; and a possible national legislation to regulate conversion. These issues have been simmering for 70 years, and one way or the other a dénouement looks likely now. But the monumental irony of the moment is these issues are also a reminder that the Congress's cardinal sin was not letting the BJP walk away with nationalism; it was letting BJP walk away with liberalism.

Since Independence, the Congress dealt with these issues as a kind of modus vivendi, relying on deferring them issue, or fudging along with messy compromises that were often unprincipled. Both Rajiv Gandhi and Narasimha Rao did that on Ayodhya by facilitating access to the site and laying the ground work for a criminal act of destruction that took place with the demolition of Babri Masjid. They also, in effect, conceded the legitimacy of the principle that any wrong that might have been committed in the 16th century needs to be rectified in the 21st and that the importance of Ram requires worship on that site.

Ram bhakti requires no such diminution of Ram. The Left also unwittingly played into the BJP's hands, by constructing a historiography that denied or underplayed the fact that temples might have been destroyed. Both, in a sense, were arguing on the same ground that current rights depend on ascertaining the facts somewhere around circa 1526. Depending on the way the judgment goes, the biggest danger of the Supreme Court order will be to create a precedent that a large number of current titles to sites, from Mathura to Kashi now depend on arcane historiography. As you can see from the gathering momentum, this is a recipe for a nation in permanent contest over monuments of the past, and permanently in the grip of communal tension. The Congress closed the path to the future, it did not uphold rule of law, and

legitimised the idea that Ram bhakti requires a temple on that site.

Similarly on the Uniform Civil Code (UCC), the Congress crafted a modus vivendi at Independence. Its shameful abdication on Shah Bano gave the BJP the political opening. What variation in civil codes is possible in a manner compatible with the freedom and equality of persons is an intricate philosophical issue. But from a liberal democratic standpoint, any civil code would have to pass three tests: Reflect freedom and equality, especially on gender; acknowledge that Parliament has symmetric authority over the laws of all religions; and that common citizenship requires we all be able to speak on each other's laws that are upheld by the state in our name. There are tricky issues. There is a false communal discourse that paints majority's laws as practices uniquely progressive and minority laws as regressive. There is the vital question of who gets to set the content of the UCC, the principles that guide it, and what variations it should allow to respect diversity. There is a real risk that our current answers to these questions will have not just a majoritarian slant, but will be designed to humiliate minorities. But in public eyes, all that the Congress offered was an evasive status quo. It let the BJP formally walk away with the plank of gender justice and the liberal idea that rights should, as far as possible, not depend on membership in particular religious communities.

On conversion, again, the Congress wrote the playbook in states including Madhya Pradesh and Odisha. Whatever may be the theological pros and cons of conversion, the idea that the state is in the business of saving anyone's soul should be an abomination for liberals. Yes, it has no right to intervene even if someone converts for inducement: That someone sells their soul, out of necessity or convenience, is their business. Often the legislation was one sided: Coming "back" to Hinduism is not conversion, but exiting it. The entire conversion discourse is built around the insecurities of Hinduism. We were complacent because we could always count on Congress governments not to enforce their own laws. But the idea of the state having any role in regulating religious beliefs should be anathema. But the Congress wrote

the playbook.

The NRC process, as it is turning out, is an abomination; a recipe for human rights violations and the creation of insecurity all around. Formally, of course, every state can claim the legal right to want to distinguish between legal and illegal immigration. In Assam, there was a political issue about apportioning power between religious and cultural communities. The CAB is one discriminatory response to that quagmire. But instead of finding creative solutions consistent with practical realities, non-discriminatory constitutional ideals and humane values, all parties are now engaged in whipping up anxieties, whose logical conclusion will be more power to the state to harass ordinary citizens, especially minorities. We are risking consigning hundreds of thousands of people to that institution that is the 20th century's most ominous symbol of oppression, the camp. The NRC will add another dimension to the politics of secularism.

In the aftermath of Partition, creating a modus vivendi that threw cold water on these issues was understandable. But the Congress not only refused to move on and think anew; it has never adequately distanced itself from its mistakes and betrayals. It cannot articulate a position that is both progressive and anti-majoritarian. Instead, it will go for status quo and soft majoritarianism. On many of these issues, particularly on UCC, there has been a lot of sophisticated thinking. But the Congress's tainted record drowns out all other positions. Amit Shah will stand up and announce that the BJP is realising all the dreams the Congress did not have the courage to fulfil. The Congress will again be like a deer caught in headlights. What will it say? It will draw the erroneous conclusion that it lost credibility because it was soft on nationalism. No, it lost credibility because it betrayed liberalism. In this crunch moment for Indian secularism, which will be a crucial test for the Opposition, the Congress will be the cross we all have to bear. Fighting for secularism against the BJP is hard enough; being tarred with the legacy of Congress makes it even harder.

The writer is contributing editor, The Indian Express

JOURNEY INTO FUTURE

Civilian flights out of Jaffna are symbolic of the distance Sri Lanka has travelled from war to peace

FROM THE TINY Palaly military airfield where Indian Air Force transporters landed troops of the Indian Peace Keep Force in the 1980s on a mission whose failure was foretold, and where later, an extremely fragile Sri Lankan Air Force landed Sri Lankan troops to recapture Jaffna peninsula from the Liberation Tigers of Tamil Eelam, taking back dead and wounded soldiers along with those going home on leave, to the shiny new Jaffna International Airport from where civilians will arrive and depart, this transformation has been a long journey in many ways. It is symbolic of the distance Sri Lanka has travelled from war to peace.

Ten years after the war ended, the airport at Palaly will now connect Jaffna to many places in the world. Through the war years, the Tamil diaspora spread widely across the globe, but the only airport to fly out from all this time was Colombo. The Chinese-built road through the heart of northern Sri Lanka has eased the road journey from the peninsula to the capital city, and the Jaffna-Colombo train service has been back for five years. But for many years, the distance between the two cities to catch a flight was not just long, but filled with the hazards of multiple checkpoints, where packing and unpacking suitcases was considered only the most minor of misfortunes that could befall a traveller, and of having to stay overnight in Colombo lodges that could be raided anytime on suspicion that LTE members were sheltering there. The first civilian flight to land there was from Tamil Nadu. It carried the weight of the long chequered history of India-Sri Lanka relations, more specifically, the special place the southern state has occupied in this from times immemorial.

That bilateral relations have changed to a point where Sri Lanka is confident enough to permit transport links between the Tamil-speaking north and Tamil Nadu tells its own story. Sinhalese Buddhism lives in the atavistic fear of an invasion from the north, and the sides taken by Tamil Nadu political parties in the civil war fuelled such fears. Sri Lanka turned down Indian financial assistance to redevelop the airport, but the air link will help boost trade, both formal and informal, and travel. Not long ago, Prime Minister Ranil Wickremesinghe wanted to build a bridge connecting Sri Lanka and India, to bring the island country closer to mainland South Asia. Jaffna International Airport could be that bridge.

I, ME, MYSELF

Trump elects to host a G7 summit at his own golf club, at state expense. For him, it's par for the course

DONALD TRUMP'S STYLE is to make the political personal. And in his case, the personal means business. Properties like the Gleneagles Hotel and the Schloss Elmau, where the G7/G8 have earlier resorted to, have yielded ground to the rather unsung Trump National Doral in Florida. In the midst of an impeachment inquiry, Donald Trump is yet again testing the limits of presidential impropriety by promising to hold the 2020 G7 summit on his own property. And once more, perhaps, he will find those limits to be quite springy and giving, though the Democrats have already raised an outcry about corruption.

The Doral golf club is said to be the least financially viable property in the Trump empire. It has never hosted anything bigger than a Republican convention, but the president insists that it has what it takes. Security for so many heads of state could be problematic, too, because while Trump suggests that its proximity to an international airport is a convenience, a sudden deviation in the flight path of a landing flight can give the troopers the willies. It happened on 9/11, with the plane that targeted the Pentagon.

Past US presidents have always been careful to keep their public and private affairs separate, to preempt accusations of illicit benefit. But Trump believes that when you tee off, it's fine to do stuff that isn't quite cricket. If anyone protests, just do it again. When he was accused of crossing a line in a call to Kiev, he just did the same thing publicly in a communication to Beijing. Now, White House chief of staff Mick Mulvane says that Trump knows of "folks who will never get over the fact that it's a Trump property". But he will persist. Because in the end, he knows, it'll be great.



KHALED AHMED

WARLORD GULBUDDIN Hekmatyar, who stood for president in the September 2019 elections in Afghanistan, announced post-poll that his rival, incumbent President Ashraf Ghani's votes were "over 60 per cent bogus", but he, Hekmatyar, had won the election anyway. The Tajik "chief executive" Abdullah Abdullah too announced that he had won the election.

A total of 2.7 million Afghans or 28 per cent of the registered voters voted in the elections. An election, held without a ceasefire with the Taliban and its allies, the al Qaeda and Islamic State, was foredoomed. The trio held almost half of the "voting" Afghanistan.

In June 2019, Ghani visited Pakistan to say that its past "interference" in Afghanistan through the Taliban Quetta Shura had disturbed the bilateral equation which he hoped to set right. Later, Hekmatyar declared that Ghani was going to harm Pakistan by helping Iran and India to scuttle Pakistan's policy in Afghanistan and the region.

That Hekmatyar "negotiated" his return to Afghanistan, after a decade of war, did not mean that he was on the side of the Kabul government fighting the Taliban, al Qaeda and IS. It did not matter that he moved back because he couldn't get along with the Afghan Taliban leaders who once lived together with him in Peshawar in Pakistan during the war against the Soviet Union (1979-1989). He had begun by being a favourite of

A DOOMED ELECTION

Afghanistan polls, held without a ceasefire, do not portend political stability

the US and ended up being its enemy, just as he began by being lionised by Pakistan but found Pakistan too "subservient" to the US. His view, however, surreptitiously resonated with many within the deep state of Pakistan.

His latest "revelation" was that Iran was in cahoots with India to harm Pakistan. Hounded by the rival Afghan warlords, he had "requested" Iran to give him shelter in 1996 — only to be driven out of there in 2002. After the Taliban under Mullah Umar fell from power in 2001, he returned to Pakistan to "resist" the government of President Hamid Karzai in Kabul.

To retrieve the details of his peace deal with Kabul, let's examine the facts more closely. On September 21, 2016, Ghani signed a peace deal with Hekmatyar and his Hizb-e-Islami militia. Before the deal, Hekmatyar apologised for bombing Kabul in 1993-94. He wanted to do this routine with Karzai too, but in those days the Americans didn't like the idea — they had placed a bounty on him. They knew that, starting 1996, he had lived in Tehran for seven years after apologising for having kicked the pro-Iran Shia militias out of the post-Soviet withdrawal mujahideen shura of Peshawar. He had Pakistan's ISI chief General Hamid Gul propping him up as Afghanistan's new prime minister.

Pakistan inherited a split Afghan policy because of Hekmatyar's vendetta against the Tajik warlord Ahmad Shah Massoud. It meant that Pakistan had to say goodbye to the non-Pashtun tribes of northern Afghanistan, thus creating space for India to step in and balance the war in Pakistan's backyard. Pakistan's pursuit of a 'Hekmatyar policy' did not endear it to the Pashtuns of Afghanistan either.

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Tajik warlord Ahmad Shah Massoud. It meant that Pakistan had to say goodbye to the non-Pashtun tribes of northern Afghanistan, thus creating space for India to step in and balance the war in Pakistan's backyard. Pakistan's pursuit of a 'Hekmatyar policy' did not endear it to the Pashtuns of Afghanistan either. After the fall of the Soviet-backed regime in Kabul, Hekmatyar was chosen as prime minister of the new set-up; but he was not allowed to sit on the Kabul throne by his enemy Massoud's militia that had "symbolically" bombed Pakistan's embassy in Kabul to signal its opposition.

Hekmatyar sat instead on a hill outside Kabul and bombed the daylights of the capital city. He had more ammunition than all the Pakistan-supported warlords put together. Efforts to persuade Hekmatyar to reconcile with the Kabul government failed despite Osama Bin Laden's urging "to compromise with Ahmad Shah Massoud" in a radio conversation from Peshawar a year earlier in 1991: "Go back with your brothers," Bin Laden had stated. Instead, in 1992, Hekmatyar persuaded Uzbek leader Abdul Rashid Dostum and his Hazara jihadi faction Hizb-e-Wahdat to form a common front against the Kabul government.

The writer is consulting editor, Newsweek Pakistan



OCTOBER 19, 1979, FORTY YEARS AGO

PRESS RESTRICTIONS

THE UNION INDUSTRY ministry issued an office circular barring its officials from meeting the press. This has come as a sequel to recent news reports on industrial policy which piqued Prime Minister Charan Singh. The circular, issued under instructions from the PM, says that any unauthorised briefing of newsmen would be treated as a serious violation of the service conduct rules and would invite stringent disciplinary action. It makes it clear that only the minister, the secretary and those officials specifically authorised to speak on behalf of the ministry would meet the press — in the normal course, journalists would be briefed by officials of the Press

Information Bureau, it is said.

LITERATURE NOBEL

THE NOBEL PRIZE in literature was awarded to Greek poet Odysseus Elytis, whose lyrical work portrays man's struggles against the background of the Aegean landscape and Greek tradition. Elytis is the second Greek poet to receive the award — Giorgos Seferis won it in 1963. Elytis is the pen name adopted by Odysseus Alepoudhelis. In the mid-1930s, he and Seferis were among the contributors to the literary magazine *Nea Grammata*. Most of the members of this lyrical school were influenced by surrealism.

TARAPUR FUEL

THE EXTERNAL AFFAIRS minister, S.N. Mishra, said there was "no room for pessimism" on the question of the US continuing supply of nuclear fuel for the Tarapur atomic power station. But did this mean there was room for optimism, he was asked at a news conference following his return from New York. Also, did the minister return with the impression that the US would clear the consignment for 19.8 tonnes of enriched uranium before the elections? Mishra replied: "There is no room for pessimism — I am not prepared to say anything more". When told of "pessimistic" newspaper reports on the subject, he described them as "tendentious".

If there are questions of current or contemporary relevance that you would like explained, please write to explained@indianexpress.com

TELLING NUMBERS

TB burden in India and world, and the declining rates

2.69 MN CASES IN INDIA, 2018

1.99 mn cases notified

7 lakh not notified or diagnosed

4.49 LAKH DEATHS IN INDIA

1.99 mn cases notified

WORLD: 10 mn cases (7 mn diagnosed, 3 mn undetected)

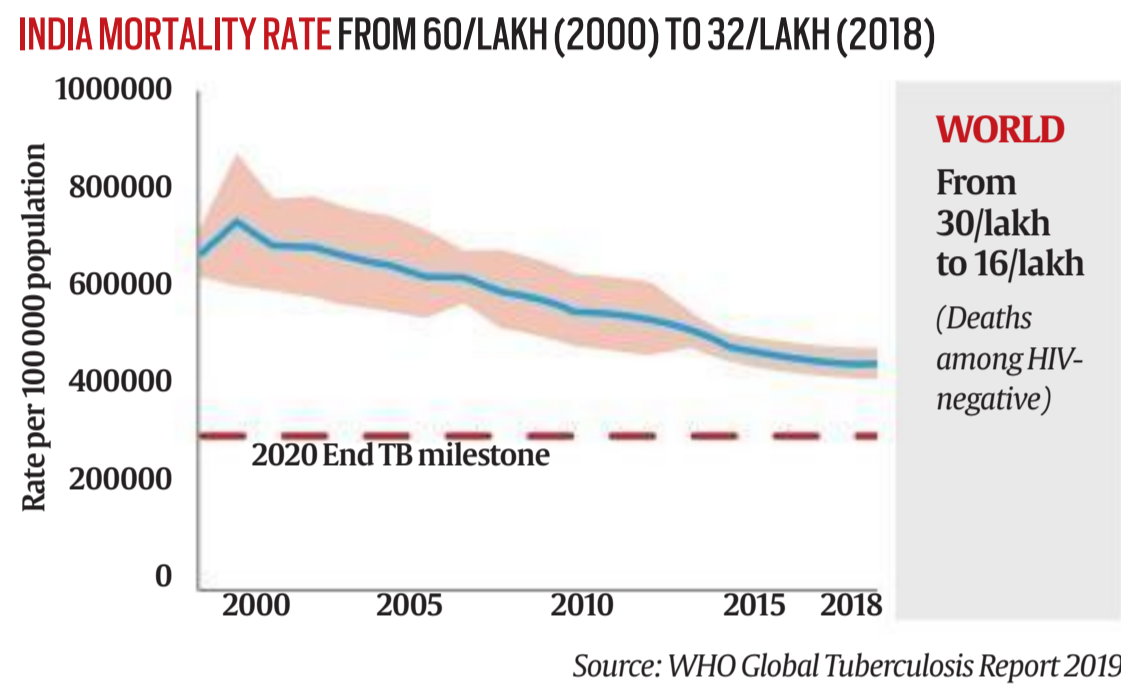
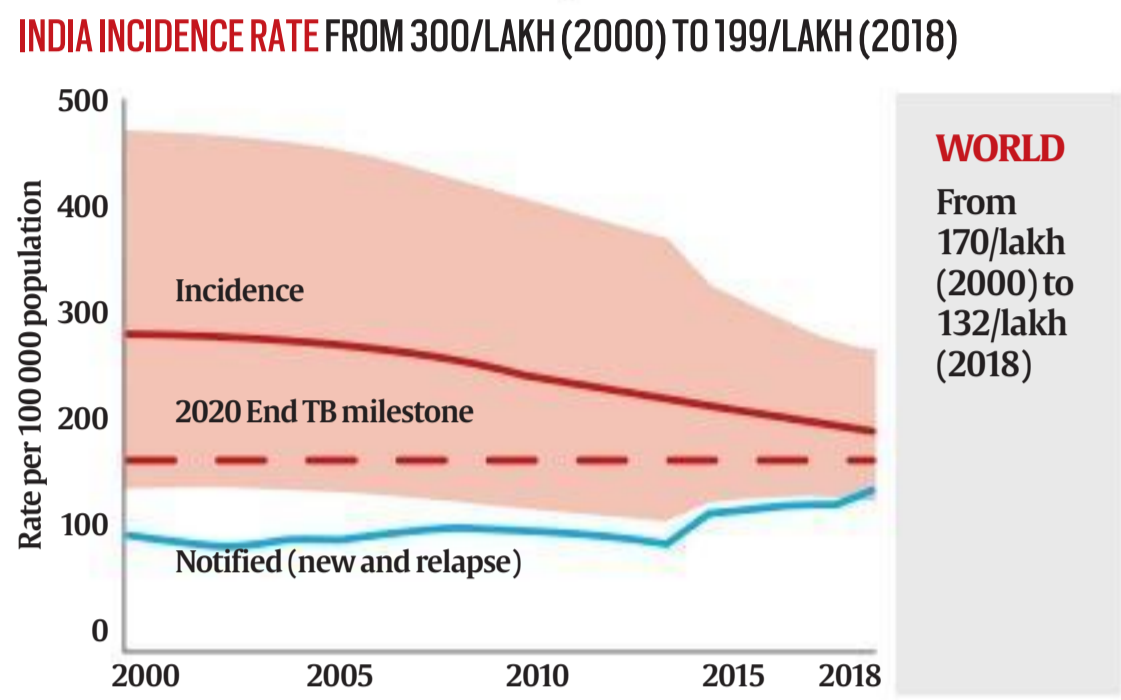
INDIA BREAKUP: 56% men, 31% women, 13% children

WORLD BREAKUP: 57% men, 32% women, 11% children

WORLD: 15 lakh deaths

INCLUDING: 2.51 lakh deaths of people with HIV

TB is the leading killer of people with HIV



Source: WHO Global Tuberculosis Report 2019

ON THURSDAY, the World Health Organization released its annual Global Tuberculosis Report for 2019, which found India was able to reduce incidence in 2018 by almost 50,000 cases from the previous year, but still had the highest burden with 2.69 million cases — 26.9% of the global burden of 10 million (*The Indian Express*, October 18).

Of the 10 million new cases, 7 million were reported to authorities, including 1.99 million of the 2.69 million in India. Globally, TB claimed 15 lakh

lives in 2018, including 2.51 lakh with HIV. The 15 lakh included 4.49 lakh deaths in India (9,700 lakh had HIV), down from over 6 lakh in 2000.

TB incidence rate in India dropped from almost 300 per lakh population in 2000 to 199/lakh in 2018, as compared to a global decline from 170/lakh to 132/lakh. The mortality rate in India declined from almost 60 deaths per lakh population (HIV-negative) in 2000 to 32 per lakh in 2018, while the global mortality rate declined at the same rate, from 30/lakh to 16/lakh.

SIMPLY PUT

Monsoon out, monsoon in

The day the southwest monsoon finally withdrew, the northeast monsoon arrived. The winter monsoon brings much less rain than the summer monsoon, but it is important for the South, especially Tamil Nadu

AMITABH SINHA
PUNE, OCTOBER 18

THIS WEDNESDAY witnessed a rare meteorological coincidence. The southwest, or summer, monsoon, finally withdrew from the country, having overstayed and delayed its retreat by a record time. The same day, the northeast, or winter, monsoon made its onset, on time. The two events rarely happen simultaneously, though the three month-winter monsoon season is supposed to begin almost immediately after the end of the June-September summer monsoon season.

In common vocabulary, a reference to the monsoon usually means the southwest summer monsoon. That is because it is the main monsoon season that brings widespread rain all across the country. For many parts of India, this is the only time they receive rainfall. These four months bring about 75 per cent of India's annual rainfall.

However, for some regions of south India, it is the winter monsoon that is much more important. Though much less heard of, the northeast monsoon is as permanent a feature of the Indian subcontinent's climate system as is the summer monsoon.

Direction gives the name

The northeast monsoon does not have anything to do with the Northeast region of the country, though a part of the system does originate from the area above it. The northeast monsoon derives its name from the direction in which it travels - from the northeast to the southwest. On the other hand, the summer monsoon, at least the Arabian Sea branch of it, moves in exactly the opposite direction - from the southwest to the northeast. That is why it is also called the southwest monsoon. Of course, the summer has another branch that swerves in an anticlockwise direction in the Bay of Bengal before entering the Indian landmass and bringing rains to the eastern, north-eastern and northern parts of the country.

The reversal of direction in the lower-atmosphere moisture-laden winds happens primarily due to the southward movement of Inter Tropical Convergence Zone (ITCZ) during the withdrawal phase. The ITCZ is a dynamic region near the Equator where the trade winds of the northern and southern hemispheres come together. The intense sun and warm waters of the ocean heat up the air

HOW MUCH RAIN, WHERE



Northeast monsoon rain at Chennai Central on Thursday morning. *Express*

Region	Annual Rainfall	NE Monsoon	Percentage
Kerala	2924	481	16.4
Tamil Nadu	914	438	47.92
South Interior Karnataka	1019	210	20.6
Rayalaseema	706	219	31
Coastal Andhra Pradesh	1024	327	31.93

Source: IMD

All India average annual: 1,187 mm (SW monsoon 887 mm, NE monsoon 127 mm)

in this region and increase its moisture content. As the air rises, it cools, and releases the accumulated moisture, thus bringing rainfall.

During the monsoon season, this ITCZ is located over the Indian landmass. By September, as the temperature in the northern hemisphere begins to go down, the ITCZ starts moving southwards, towards the Equator, and further into the southern hemisphere where the summer season begins to take shape.

Rain over Southern Peninsula

The months of October, November and December are supposed to comprise the northeast monsoon season, though the normal date for the onset of this monsoon is only around October 20. The southern peninsular region receives rains in the first half of October as well, but that is attributable to the retreating summer monsoon. The summer monsoon season ends on September 30 but the withdrawal does not happen overnight.

From the beginning of the season, as it starts its northward journey over the Indian landmass, the monsoon takes a month and a half to cover the entire country. The southward withdrawal takes place over a period of three to four weeks. It usually starts around the second week of September and continues till about the second week of October, bringing rain as it retreats. This year, the withdrawal was completed in just eight days, beginning on October 9.

The northeast monsoon season brings rainfall to just five of the 36 meteorological divisions in the country - Tamil Nadu (which includes Puducherry), Kerala, Coastal Andhra Pradesh, Rayalaseema and South Interior Karnataka. As such, this season contributes only 11 per cent to India's annual rainfall of 1,187 mm, compared to about 75 per cent in the summer monsoon season (the remaining rain comes in other non-monsoon months).

TIP FOR READING LIST

HISTORY OF THE MULTIVERSE CONCEPT

MULTIVERSE IS a scientific concept that has become commonly used because of the popularity of the Marvel Cinematic Universe. In *Avengers: Endgame*, the Ancient One explains how removing any of the Infinity Stones will create splinter timelines, each continuing alongside the original one, with a different universe along each timeline. This idea is not just restricted to science fiction. Some scientists believe that our universe may indeed be just one of many. The idea goes back many centuries, in fact, and it is this history that Tom Siegfried, former editor-in-chief of *Science Magazine*, explores in his new book *The Number of the Heavens: A History of the Multiverse and the Quest to Understand the Cosmos*.

"While 'multiverse' is in the book's subtitle, and Siegfried starts the book with contemporary discussions about it, much of the book is a historical account of how our understanding of just what comprises the universe has evolved." *The Space Review* writes in its review. The book traces the history of this idea from the time of the Ancient Greek philosophers, who first raised the possibility of multiple universes. During the Renaissance, René Descartes declared "the number of the heavens" to be indefinitely large. In the 1980s, new theories about the Big Bang led to renewed interest in the multiverse. And today, some cosmologists and physicists are debating about the possibility of parallel universes.



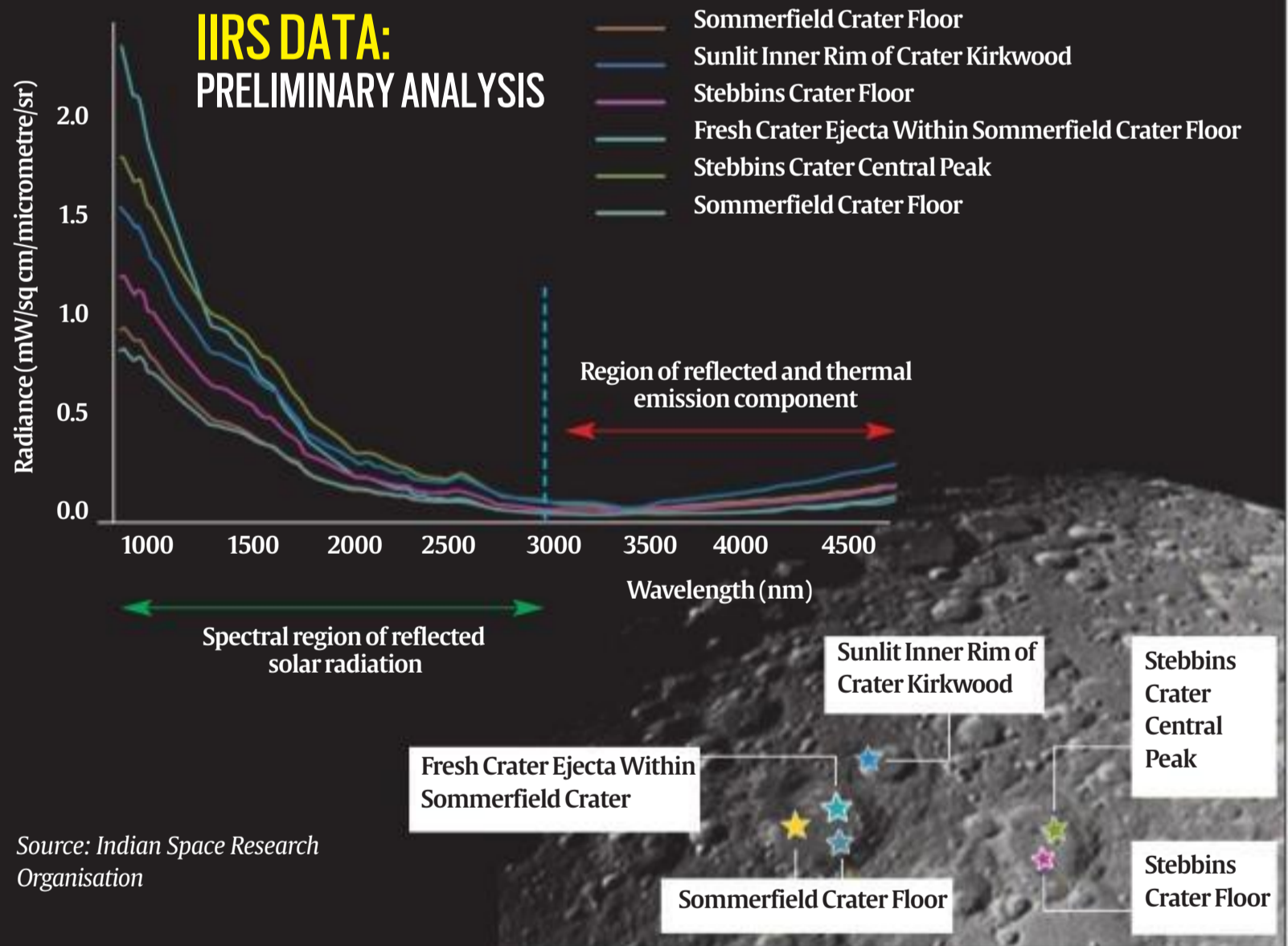
THIS WORD MEANS SPECTROSCOPY

Science behind latest Chandrayaan-2 image, and why these graphs matter

ON WEDNESDAY, the Indian Space Research Organisation (ISRO) released an image from Chandrayaan-2 showing measurements from the Moon, carried out by the instrument Imaging Infrared Spectrometer (IIRS). Such studies make up a branch of physics called spectroscopy.

It is well known how visible light can disperse into rainbow colours after passing through a prism. The science of spectroscopy grew from there, and today it has extended to include the study of interaction between matter and electromagnetic radiation. IIRS is designed to measure light from the lunar surface in narrow spectral channels (bands). It has the ability to split and disperse reflected sunlight (and its emitted component) into these spectral bands.

From the reflected solar spectrum, scientists will look for signatures, including of minerals. This will help map the lunar surface composition, which in turn will help us understand the Moon's origin and evolution in a geologic context.



Source: Indian Space Research Organisation

More than the numbers: why all-women spacewalk is a milestone

MEHR GILL
NEW DELHI, OCTOBER 18

ON FRIDAY, NASA astronauts Jessica Meir and Christina Koch carried out the first all-women spacewalk in history. Their mission was to carry out repairs on the International Space Station. What makes it historic, however, is not just the fact that it is a first, but also the events leading up to the event, including a failed earlier attempt.

What happened the first time?

The first all-women spacewalk was originally meant to happen on March 29. Koch was one of the astronauts then, too, the other being Anne McClain. It did not happen because the International Space Station did not have enough spacesuits for McClain's size.

McClain had trained in two sizes, and was meant to wear a size-large upper torso on the historic spacewalk. After one spacewalk (not all-women), she figured that a size-medium upper torso would work best for her. However, only one such upper torso was ready for use at that time, and Koch was

to wear that one. So, McClain's slot was given to Nick Hague (size large), who walked with Koch.

What is "ready for use"?

Spacesuits need to be configured to an astronaut's body size before a spacewalk. It can take up to 12 hours to safely prepare spacesuits for a spacewalk, Stephanie Schierholz, NASA spokesperson, told *space.com* at that time. To avoid delay and for safety reasons, the swap was necessary. Putting on a spacesuit takes 45 minutes.

On March 27, McClain tweeted, "This decision was based on my recommendation. Leaders must make tough calls, and I am fortunate to work with a team who trusts my judgement. We must never accept a risk that can instead be mitigated. Safety of the crew and execution of the mission come first."

McClain later went on another spacewalk.

If safety was the concern, why was the change of schedule an issue?

It sparked widespread criticism. While NASA is generally regarded as being sensitive to gender issues (Koch's and Meir's 2013



Jessica Meir (left) went on her first spacewalk; Christina Koch (right) on her fourth. *NASA*

class of astronaut candidates was 50% women), many women saw the lack of availability of the right spacesuit as a sign of NASA's structural problems with regard to women astronauts.

"Make another suit," Hillary Clinton tweeted, while British politician Amelia Womack tweeted, "How women miss out when the world is built around men." And Author Mary Robinette Kowal, winner of

the Hugo Award, posted a tweet that appeared to imply gender bias in the spacesuits sizes that were given priority.

"NASA used to have small, medium, large and extra-large suits. For budget reasons, the small and XL suits were cut. However, many of the male astronauts could not fit into the L suits, so the XLs were brought back. The small suits never were," Robinette Kowal tweeted.

Until now, 213 men and 14 women (including Koch) had done spacewalks; Meir became the 15th.

As the debate raged, NASA tweeted, "We've seen your tweets about spacesuit availability for Friday's spacewalk. To clarify, we have more than 1 medium size space suit torso aboard, but to stay on schedule with @Space_Station upgrades, it's safer & faster to change spacewalker assignments than reconfigure spacesuits."

Why must spacesuit specifications be so precise?

A spacesuit, or Extravehicular Mobility Unit (EMU), is worn to be able to work outside the space station. Spacesuits provide astronauts with oxygen supply while they are in the vacuum of space and the suits also give them protection against extreme temperatures, radiation and space dust.

An EMU consists of components such as the upper torso, lower torso, gloves and arms, which are manufactured in different sizes and assembled together in combinations that fit an astronaut best. In McClain's case, it would have meant swapping parts.

Spacesuits are not designed differently for men and women astronauts.

The EMUs currently in use were developed in 1974. These are reusable, and have been refurbished and redesigned many times in the last 40 years.

Is there no plan for an upgrade?

On October 15, NASA unveiled its next generation of spacesuits. One kind, called xEMU, will improve upon suits previously worn during the Apollo era and those that are currently in use for carrying out spacewalks outside the ISS. The Orion suit, meanwhile, is designed for a custom fit and incorporates safety technology and mobility features that will help protect astronauts during launch, in emergency situations, high-risk parts of missions near the Moon, and during the high-speed return to Earth, NASA said.

Significantly, the xEMU suits will be worn by astronauts on the Artemis mission to the Moon. As NASA pointed out while announcing the new spacesuits, the mission will seek to put the next man and the first woman on the Moon.

NOTES FROM A SCHOOL ON THE HILL



CRANKY CUSTOMER
PRIYA RAMANI

The good news is, Fanny is pregnant and due next month. “She seems quite miffed I didn’t tell you over the phone,” Sabbah Haji texts me just after I finish chatting with her on the phone.

The 37-year-old founder of the family-run Haji Public School, in the distant Himalayan village of Breswana in Jammu and Kashmir’s (J&K) Doda district, has the most brilliant long-running story—think James Herriot meets Heidi over cups of *nunchai* (salted tea)—on the Indian internet. “When our internet is killed, don’t forget we’re still in here,” Haji tweeted this on 3 August, two days before the government disabled the internet in Kashmir and announced it was withdrawing the special status of J&K, guaranteed for more than 65 years under Article 370 of the Constitution. “That’s when things will go from bad to worse. And that’s when we’ll need some spine from the outside,” she said in another tweet. I called her on Day 70 to tell her we hadn’t forgotten Kashmir.

Haji has since lost hope that the rest of the country cares about what’s happening in Kashmir. Her own civil disobedience, she says, has been to keep the school running every day these past two months despite government orders.

The prolific social media user and wickedly humorous “Chenab *ki churail*”, as her Twitter bio describes her, brings alive her picture-book village school, located, as she is fond of saying, in the “most beautiful corner of the world”, with photographs, videos and stories on Twitter, Facebook, Instagram and Tumblr.

Fanny is one of the stars in this real-life fairy tale. Last December, Haji’s brown cocker spaniel was attacked by a leopard and we were there, courtesy a series of 23 tweets. “She let me close and, good Lord. So much blood. Slashed deep across back of neck, deep bite and claw marks in throat, several deep lacerations across body. This is now around 11 PM. No one at home but me. Also, this is the village and it’s winter where everyone is fast asleep by 9 PM. Or homes are far enough away that cannot call anyone,” Haji



Students of Haji Public School.

INSTAGRAM@IMSABBAH

tweeted from her handle, @imsabbah.

The next morning the villagers came early to help. Fanny got 50 stitches and was driven to the vet, hours away. Miraculously, she survived.

But this story really began when Haji returned to her village after living in Dubai and Bengaluru and realized that decades of militancy and state apathy had ensured that nearly two generations of villagers had no education.

In 2009, she set up a school in two rooms of her home. Ten years later, Haji Public School’s more than 500 students come from 30-plus surrounding villages. The children who joined kindergarten when the school first started will appear for the class X board examinations this year.

By 2011, Haji was shooting pictures on a digital camera and posting them online every time she visited Jammu—a whole day’s travel by road, foot and horseback—in the hope that it would encourage volunteers to apply to work at the school. By the end of 2016, she finally had internet at home.

That day, 5 August, was a normal school day. “All the teachers were restless. The children could sense it. They had been keyed up from home when they discovered the internet and phones were dead that morning,” she says.

Kashmir is no stranger to internet shutdowns—there have been 176 over the past eight years, including a six-month blackout in 2016, according to online tracker Internet Shutdowns—but something was different this time, and Haji knew that when she tweeted in early August.

“I kept going down to the TV room to check what announcement was going to be

made at 11. And then it came. That fictional stuff you hear about a roar in your ears and noise in your brain? It’s not made up after all... And then we had to go back to class and the kids could sense something was very wrong. So they were tense as well... Now Day 70, and it’s still incredible.”

Up at 7,500ft, the machinations of the real world don’t penetrate the lives of the apolitical villagers who are focused, as always, on the business of survival. It’s that time of year when the harvest season is done, the vegetables and fruits have been sun-dried and preserved for the months to come, and the final grass harvest was completed a couple of weeks ago.

“During this time, the villagers walk with sickles on their belts and heavy loads of hay and corn on their back as they zigzag the mountains. It’s 40 days of very hard work, and the village does this turn-by-turn for every household. There are big mountains of corn and hay everywhere that should last till March-April for animal fodder,” says Haji. “It’s that time of year I would post a picture of my 40-kilo aunt carrying a 30kg load on her back.”

Haji lost a foal to a snakebite three days ago, and, yes, a leopard with three cubs was spotted sauntering behind the school at sunset. It’s time to keep an eye on the dogs again.

Stories from the Kashmir valley—well-attended protests, empty ATMs, the proliferation of army checkpoints that are a throwback to the 1990s and the daily humiliations and tragedies of friends and family—do get through. Haji has a lot of questions for the rest of India: “Where are the elected leaders? Why is everyone in jail, in solitary, not

allowed to talk? What are you celebrating? Why isn’t the press doing its job? What kind of farce is ongoing?”

“In Breswana, a man died but all his family was outside and nobody could be contacted. So we buried a man without any family,” says Haji. “I am sure that’s happening across Kashmir.”

Haji says she doesn’t want to impose her politics on the families who send their children to her school but she can’t help but see the irony in teaching the civil disobedience movement in her history class. The teachers have been writing open letters to media organizations. “And since we have been telling the kids how we are writing to all and sundry, they have constructed a big post box at school—red and black and beautiful—where they will post letters and then it will be on us to forward them. So far they want to write to Malala (Yousafzai), Greta (Thunberg) and the UN, apart from all the teachers who have been here,” says Haji. “We have a Kashmir shutdown counter running at school.”

Meanwhile, final exams start the day after we speak. Baby Sports Day (kindergarten to class II) and Junior Sports Day (classes III to V) were held last month. “I wish you could see the pictures. And they can’t run in straight lines, good grief. The number of track disqualifications,” says Haji. “House Gondor won. Champions were Mufeeda Banoo, Yasir Mushtaq, Aqib Lohar, Nadiya Batt. Abdul Kariem of class IV got a special prize for best sportsmanship when he went around consoling sobbing kids who didn’t pass the baton cleanly in the relay races.”

The sheep and goats have just come back down from the higher meadows where they grazed all summer, Haji texts me a couple of days after our conversation. “The dogs are going crazy. The herd will now settle on one field for a few days—their bodies warm up the earth and their manure is super good for the next sowing.” They’ll move through all the fields in the coming weeks before the winter crop of wheat is planted.

Last December, Haji shared some pictures of Fanny undergoing treatment on Facebook with this caption: “Fanny’s game face. Bring it. Learn from Fanny, be like Fanny. Fanny is a champion. Please send in prayers BECAUSE THEY WORK.” One year later, it’s Kashmir that needs our prayers and a miracle.

Priya Ramani shares what’s making her feel angry/agreeable.

@priyaramani

CLIMATE CHANGE TRACKER

BIBEK BHATTACHARYA

THIS WEEK: Protecting the Himalaya



ALAMY



The Valley of Flowers is one of 135 Indian Himalayan protected areas.

Best-laid plans

In last week’s column, we looked at the effects of a rapidly warming climate on melting Himalayan glaciers and the dire effects that is having on high-altitude forests and animals. They will be endangered in a matter of decades. Since near-term climate change predictions are made for 2050, the time to protect glaciers is probably already past. But what of that familiar and beloved Himalayan landscape of rhododendron groves, burrowing pikas, sweeping griffons and valleys full of wildflower blooms?

The landmark *Hindu Kush Himalaya (HKH) Assessment Report* from the International Centre for Integrated Mountain Development (Icimod), which was published in February, has some suggestions. Of the eight Asian countries that are part of Icimod, China and India account for the largest numbers of protected areas (PAs), 221 and 135, respectively. In India, the cumulative area under PAs is 62,417 sq. km, including such important areas as the Nanda Devi National Park in Uttarakhand and the Khangchendzonga National Park in Sikkim.

Given the very nature of the HKH region, trans-boundary international cooperation is key. There are some good examples of this, including two Icimod programmes. One is the Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI), a regional cooperation framework between India, Nepal and China. Its job is to establish mechanisms for cross-border cooperation to protect connected ecosystems, reduce threats to biodiversity and improve livelihoods. The KSLCDI, which began in 2012, covers 31,252 sq. km, an altitude range of 390-7,694m and 14 major watersheds. There’s a similar Khangchendzonga Landscape Conservation and Development Initiative (KLCDI) between India, Bhutan and Nepal in the Eastern Himalaya.

The HKH assessment report advises member countries to closely monitor changes within PAs, so that conservation policies adapt to changing needs and pressures. According to the report, we will be better equipped to save our biodiversity by integrating Himalayan peoples and their knowledge and tradition systems.

In next week’s column we discuss Diwali and air quality. Follow the series with #MintClimateTracker.

Just a pinch and not more

Salt is life, but gets a bad rap because we consume far more of it than what our bodies actually need

Vasudha Rai

The World Athletics Championships in Doha (27 September-6 October) saw many firsts. The games were held at the Khalid International Stadium, an open-air structure that was miraculously air-conditioned. But though almost all the events took place within this structure, the marathon runners had to traverse the 7km course outside the stadium for six laps. The race started 1 minute before midnight, when the temperature had cooled to a relatively bearable 32 degrees Celsius. While it was marketed as the first midnight marathon, this was done for the health and safety of the athletes, to protect them from the loss of a precious mineral: salt.

JUST A FEW GRAINS

Salt has got a rap over the years, and with good reason. Not because it is bad, but because we consume far more than the required amount. The World Health Organization (WHO) recommends 5g a day, which is less than a teaspoon. Shonali Sabherwal, Mumbai-based macrobiotic nutritionist, chef and author of *The Detox Diet*, says we actually need just a pinch. Lovneet Batra, a Delhi-based sports nutritionist who has consulted with Indian teams for the Commonwealth Games, says the quantity shouldn’t exceed more than a teaspoon every day. Still, it is common to have several teaspoons on a daily basis.

“You will be surprised to know that 70% of your salt consumption isn’t even from meals—you get it from bakery goods, cured meats, in fact any packaged food contains salt as it is the best preservative,” says Batra.

Yet salt is absolutely essential for humans. “Whether it is muscle contraction or relaxation, or the communication between two neurons, salt is the prime electrolyte for this function,” explains Batra. If sodium levels drop drastically, she says, it can be fatal. But when taken in excessive quantities, it increases water retention in the body, in turn leading to high blood pressure. “If you have high BP, then you have to go even lower in terms of salt consumption; your upper limit will be



Himalayan pink salt is good but it is often adulterated.

ALAMY

SALT RECIPES

Lovneet Batra shares two must-haves for the season

CHARGED WORKOUT WATER

► 500ml of fresh fruit juice, 500ml of water and a pinch of salt.

► “If you work out for an hour or two every day, this is the best drink for you.”

THE ANTI-POLLUTION MIX

► 30ml *amla* (Indian gooseberry) juice, 5ml ginger, a pinch of Himalayan salt, 1 tsp jaggery.

► “This is great for those with respiratory problems. Drink first thing in the morning on an empty stomach.”

half a teaspoon,” says Batra.

TOXIC LOAD

Like every other food these days, salt too isn’t immune to adulteration. “Most of us use commercial salt, which is full of sodium chloride, stripped of minerals and packed with anti-caking ingredients to ensure the salt flows easily,” says Sabherwal. She adds that commercial salt isn’t edible any more. “It is like dairy—thoroughly contaminated.”

Naturally, this has led to people looking for healthier, more natural versions. “In macrobiotics, we look at sea salt because the minerals are retained and it is less

processed,” says Sabherwal.

The medicinal system of Ayurveda, however, has a different take on it.

“There are mainly five varieties of salt in Ayurveda,” says Abhijit Jinde, a Pune-based Ayurvedic physician. “Out of these five, rock/Himalayan pink salt or *saindha namak* is the best, while sea salt is supposed to be bad for the system.” Jinde explains that according to Ayurveda, sea salt produces a lot of *kapha* (earth and water elements) and *pitta* (fire element) in the body, which leads to water retention. He says it leads to too much secretion in the system, which causes water imbalance, in turn leading to conditions such as high blood pressure. “Plus, it is excessively heating.”

But he warns of the adulteration in pink salt: “Black salt becomes pink after grinding but rock salt is pink in crystals and white when ground.” So if your Himalayan salt is too pink, it could be black salt.

“Ayurveda doesn’t encourage adding salt over food,” says Jinde. “The cooking process helps it make the food more digestible, therefore adding it on top after cooking won’t enhance the digestibility of food—it is just like eating salt without any benefits.”

THE IODINE CONNECTION

Even though natural salt is gaining popularity, many people still stick to the table variety because it is fortified with iodine. “You need 150 micrograms of iodine a month which is half to three-fourths a tablespoon of commercial salt iodine,” says Sabherwal. She says you can choose iodine-fortified pink salt or get it from sea vegetables, which have a high concentration of iodine. “You can also take spirulina for iodine—start with half a teaspoon and then a full teaspoon mixed in a glass of water every day.”

● NOT SO GREEN

Greta accuses rich nations of "creative carbon accounting"

When it comes to measuring national emissions, she has a point

reason, among others, that Greta Thunberg, a teenage climate activist, told Britain's Parliament in April that its climate goals amounted to little more than "creative carbon accounting".

The gap between national consumption and production measures comes from the emissions that are embedded in cross-border trade. Such emissions make up a quarter of the global total. Scientists began to pay more attention to them as China became a manufacturing powerhouse following its entry into the World Trade Organisation in 2001. Its factories were powered by coal, the fossil fuel that emits the most carbon per unit of energy.

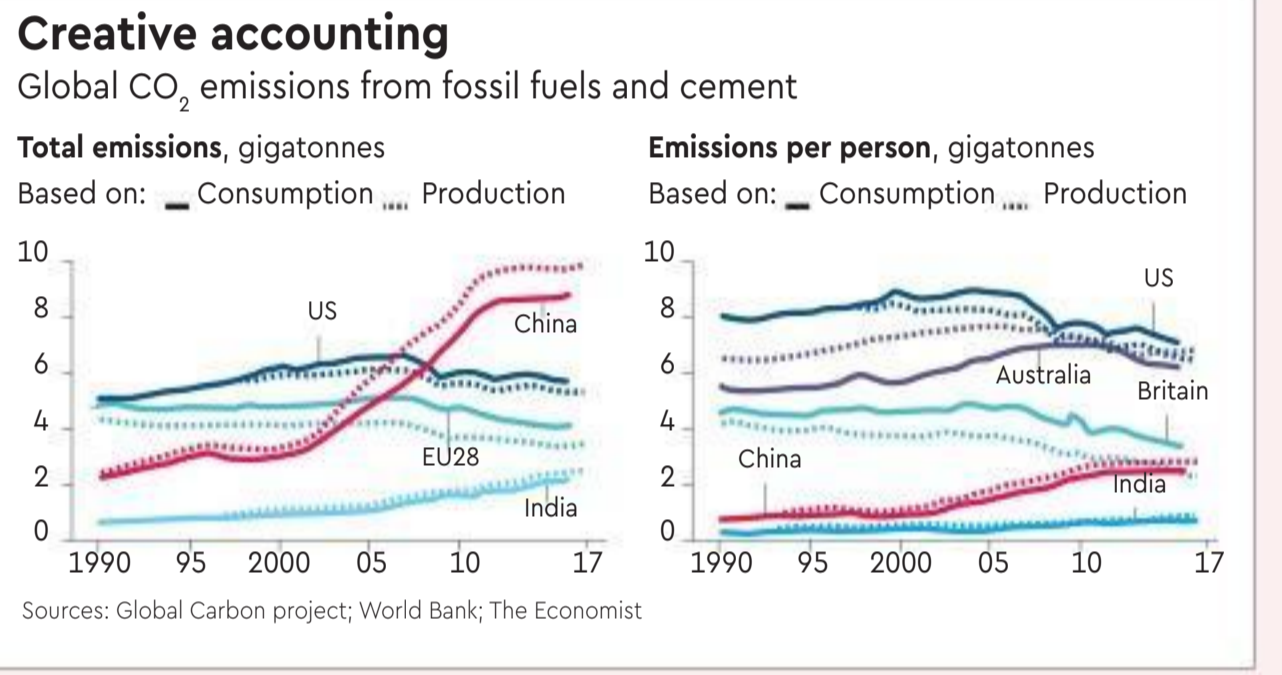
By 2009 China had become the world's largest carbon emitter. Its exports alone now account for about 5% of the world's fossil-fuel emissions. Most of this relates to goods that are ultimately consumed in the developed world: two-thirds of China's emissions exports go to members of the oecd, a rich-country club. India and Russia are sizeable carbon exporters, too. (Saudi Arabia is not a big emissions exporter because both production and consumption statistics book the emissions from oil in the country where it is burned rather than extracted.)

Cutting trade-related emissions is a daunting task. Cross-border supply chains are often complex, and making goods closer to home may not actually improve matters. The problem can be split into three parts: what is imported, where it comes from and how it travels.

The imports that embed the highest carbon emissions are mostly industrial materials (iron, steel and chemicals) and consumer goods (cars, electronics and textiles). According to the Global Trade Analysis Project, a database maintained by Purdue University, these six products account for about 30% of trade-related emissions. But the CO2 released by the same item produced in two different countries can differ hugely, depending on how energy-effi-



ILLUSTRATIONS: ROHNIT PHORE



cient production is and how the countries make their electricity.

Purdue's data show that cars and cars parts exported by China are responsible for nine times more CO₂ per dollar than those exported by Germany. Mathieu Poitrat Rachmaninoff, an analyst at Newton Investment Management, notes that on average about half of the lifetime emissions from an electric vehicle come from making the battery. A medium-sized battery made in renewables-rich Sweden emits around 350kg of CO₂. For coal-reliant Poland, that figure is over eight tonnes.

To cut emissions, it is therefore necessary to look closely at products' provenance. Sometimes the conclusions are counter-intuitive, as the tomatoes in New Covent Garden Market demonstrate. British tomatoes are grown in heated glasshouses and thus require three times more energy than sun-blessed Spanish ones. Even accounting for transport, local tomatoes are responsible for more emissions. Mike Berners-Lee of Lancaster University points out that a British apple bought in June has typically been in chilled storage for nine months. Keeping it cool for that long emits about as much carbon as shipping an apple from New Zealand.

Modes of transport also matter. Around 87% of the world's freight, measured in tonne-kilometres (a tonne transported one kilometre), goes by sea. Shipping accounts for about 2% of fossil-fuel emissions. But as a means of transport it is carbon-efficient. Producing a tonne of steel in China takes about two tonnes of CO₂. Shipping that steel to New York adds only 322kg. Planes account for just 0.1% of the world's tonne-kilometres of international freight, but an outside share of all emissions. According to figures from the British government, the carbon emissions caused by transporting a given weight by air are about 70 times greater than if it had been shipped. That means sectors reliant on timely delivery, such as fast fashion, are particularly environmentally unfriendly.

Just as governments and scientists

are grappling with how to assess trade-related emissions, the world's network of cross-border commerce has been disrupted by America's trade war with China. In the first half of 2019, global trade volumes rose by 1% compared with the prior year, the slowest rate since 2012. But even if trade flows were to fall, it does not follow that global emissions would drop, points out Glen Peters of the Centre for International Climate Research in Norway. Moreover, China produces lots of carbon-saving technology. It is home to eight of the world's ten biggest manufacturers of solar panels, and is pumping money into batteries and electric vehicles. An intensifying economic conflict between America and China could mean the flow of Chinese technology and know-how across borders dries up, hampering mitigation efforts elsewhere.

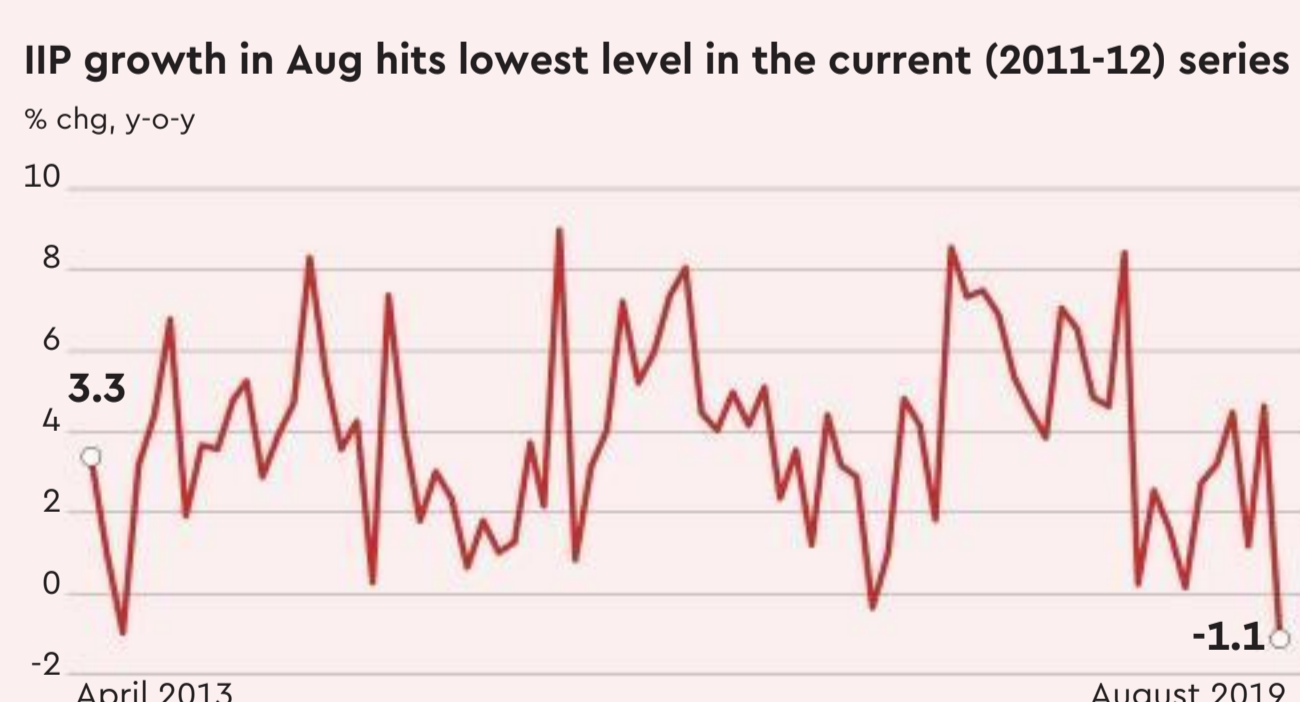
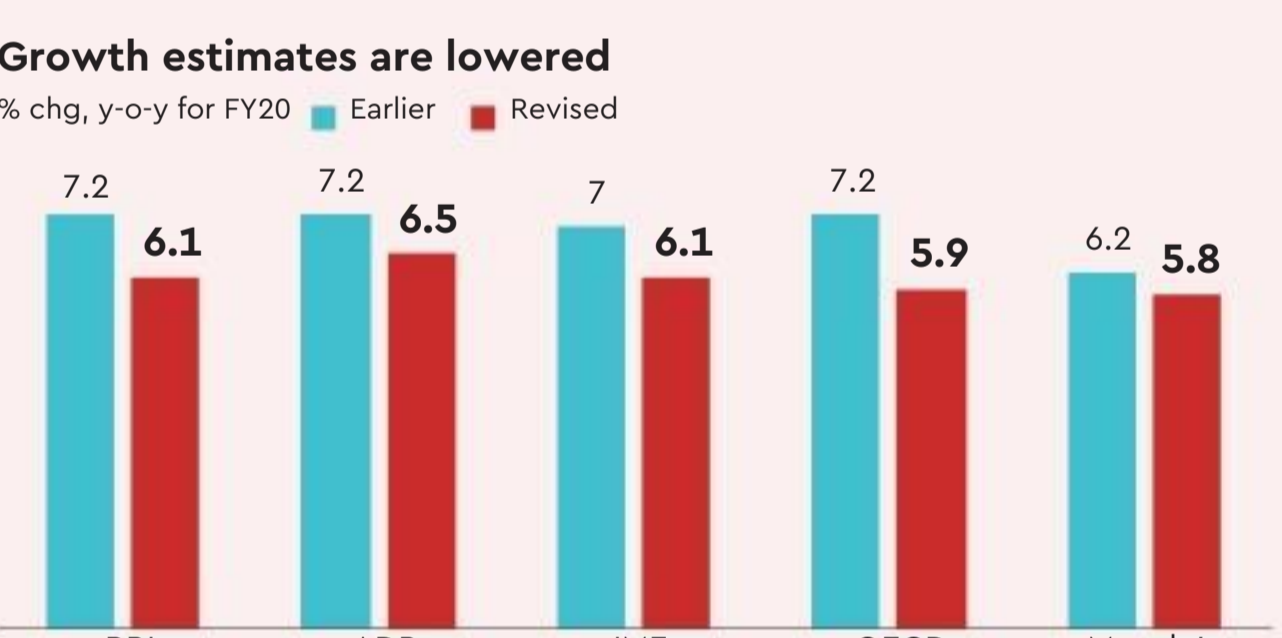
The trade war could cause multinational firms to shift production away from China. But that might not reduce emissions much, if activity is relocated to other countries that are keen to fuel their export-led growth with coal. Already emissions exports are growing fastest in Bangladesh, India, Indonesia and Vietnam, says Dabo Guan of the University of East Anglia. None of these countries is emitting as much carbon per person as China did when its exports took off, mainly because they burn less coal. But all are attracting labour- and resource-intensive industries such as plastics and electronics, which are leaving China in search of lower wages and less stringent environmental standards.

In the long run the only answer is for all economies, including manufacturing-heavy ones, to shift towards cleaner sources of energy. Trade deals could be used to encourage exporting countries to cut emissions, says Sam Lowe of the Centre for European Reform, a think-tank in London. The eu is considering a carbon "border-adjustment" tax—higher tariffs on goods from countries that do not meet the eu's environmental standards. America's environmental standards already allow for penalties on countries that fail to meet their commitments under the Paris climate agreement of 2015—though President Donald Trump shows little interest in using them. The trade deal struck in June between the eu and Mercosur, a South American trade bloc, could be blocked by eu member countries, or meps, unless Brazil does more to protect the Amazon rainforest.

As decarbonisation gets under way in rich countries, emissions embedded in imports will loom larger. Finding ways to curb them will be tricky. But they will become harder to ignore.

THE ECONOMIST

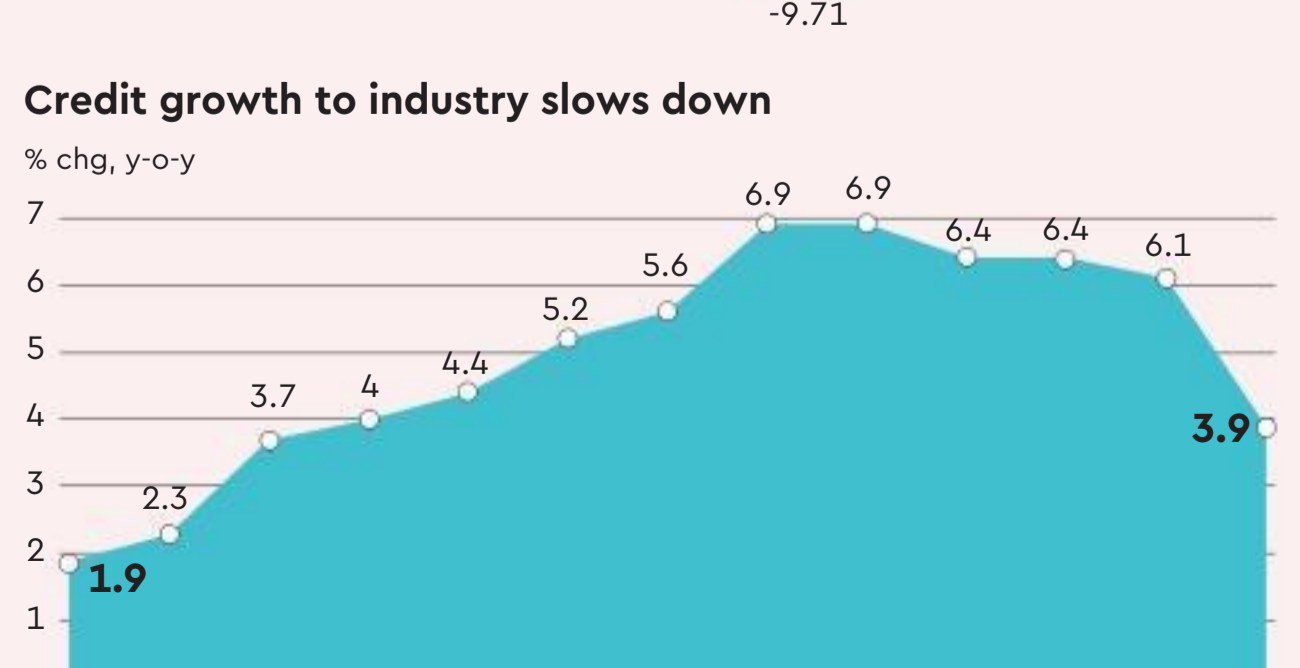
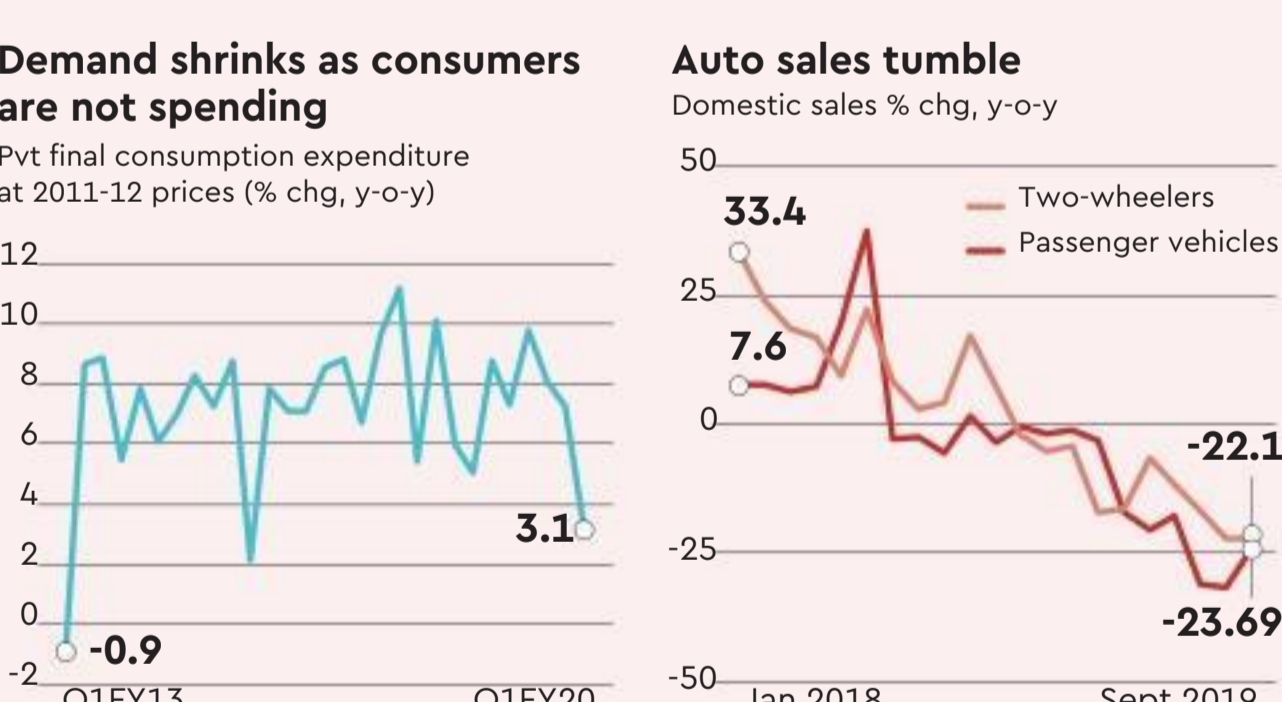
DATA DRIVE



Growth outlook dims

GIVEN THE FACT that the economy grew 5% in the three months to June, the slowest in 25 quarters, and the high-frequency indicators showed no signs of improvement in the subsequent months, most agencies are lowering India's growth projections for the current financial year.

This week, the International Monetary Fund (IMF) cut its estimate for India's growth to 6.1% from 7% projected in July. To address the cyclical weakness, the IMF urged the government to use monetary policy and broad-based structural reforms. Similarly, Reserve Bank of India had cut its FY20 GDP estimates to 6.1% from 7.2%, and the World Bank has lowered its forecast to 6%, down from 7.5% in April. Various indicators show that the



Source: CSO, RBI, ministry of commerce, SIAM, Nielsen and HUL

